UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,278	10/06/2000	Yukie Miyamoto	DP-685-US	8487

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EXAMINER
RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
2665	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/680,278	MIYAMOTO, YUKIE
Office Action Summary	Examiner	Art Unit	
	Daniel J. Ryman	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>26 January 2006</u>.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-23</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-3,7,11-21 and 23</u> is/are rejected.

7) ☒ Claim(s) <u>1,3-11,15,16,20 and 22</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____.

       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments, see Response, filed 1/26/2006, with respect to the rejection(s) of

claim(s) 4, 5, 8, 9, and 15 under Sundelin et al. (USPN 6,144,861) in view of Douzono et al

(USPN 5,574,983) in further view of Chheda et al (USPN 6,515,975) have been fully considered

and are persuasive. Therefore, the rejection has been withdrawn.

2.   Applicant's arguments, see Response, filed 1/26/2006, with respect to the rejection(s) of

claim(s) 11-14, 17, 18, 20 and 21 under Sundelin et al. (USPN 6,144,861) in view of Douzono et

al (USPN 5,574,983) in further view of Chheda et al (USPN 6,515,975) have been fully

considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon

further consideration, a new ground(s) of rejection is made in view of Applicant's admitted prior

art in view of Douzono et al (USPN 5,574,983) in further view of Chheda et al (USPN

6,515,975).

3.   Applicant's arguments with respect to claims 1-3, 7, 19, and 23 have been considered but

are moot in view of the new ground(s) of rejection. In addition, Examiner would like to note that

while Applicant argues that the newly added limitations to claims 1, 3, and 7 further limit the

scope of the claim, these limitations fail to limit the scope of the claim since these limitations are

part of the preamble and are not required for the operation of the claimed method. Simply, by

placing these limitations in the preamble of the claims and then not tying these limitations to the

body of the claim, the newly added limitations do not limit the scope of the claim.

4.   Further, the "it is possible" language in each of these claims also does not further limit

the claim since "it is possible" is so broad as to render the limitation meaningless. Examiner

suggests changing "wherein it is possible to decide" to "wherein the RNC decides" since this eliminates the "it is possible" language in addition to tying the newly added limitation into the body of the claim. As such, this proposed amendment requires the limitation added to the preamble in addition to requiring the limitation following the "it is possible" language.

Claim Objections

5.   Claim 1 is objected to because of the following informalities: in line 3, "up receive" should be "up receive signal" (see specification p. 2, lines 9-10) and in line 8, "CH" should be "CH (channel)". Appropriate correction is required.

6.   Claim 3 is objected to because of the following informalities: in line 3, "up receive" should be "up receive signal" (see specification p. 2, lines 9-10) and in line 8, "CH" should be "CH (channel)". Appropriate correction is required.

7.   Claim 7 is objected to because of the following informalities: in line 3, "up receive" should be "up receive signal" (see specification p. 2, lines 9-10) and in line 8, "CH" should be "CH (channel)". Appropriate correction is required.

8.   Claim 11 is objected to because of the following informalities: in line 4, "CH" should be "CH (channel)" and in line 6, "BTs" should be "BTSs". Appropriate correction is required.

9.   Claim 20 is objected to because of the following informalities: in line 4, "CH" should be "CH (channel)". Appropriate correction is required.

Claim Rejections - 35 USC § 101

10.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11.   Claims 11 and 13-18 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. In order for a method to be statutory, the method must

have a practical application. A practical application can be identified in one of the following

ways: (1) the claimed invention "transforms" an article or physical object to a different state or

thing and (2) the claimed invention otherwise produces a useful, concrete and tangible result.

Here, the method merely performs a calculation to determine Sref. There is no "transformation"

of an article or physical object since the calculation is not tangible. In addition, there is no useful,

concrete, and tangible result, since the value Sref is not used to perform a function. Simply, the

method is merely an abstract idea. In order to be statutory, the method should require that the

Sref value is transmitted to all BTSs connected to the MS since this produces a useful, concrete,

and tangible result.

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

13.   Claims 1-3, 7, 11-14, 17-21, and 23 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Applicant's admitted prior art in view of Douzono et al (USPN 5,574,983), of

record, in further view of Chheda et al (USPN 6,515,975), of record.

14.   Regarding claims 1 and 11-13, Applicant admits as prior art a transmit power control

method in a CDMA mobile communication system during a selection/synthesis processing in a

Radio Network Controller (RNC) of an up receive signal from each of base transceiver stations

(BTSs) connected thereto (p. 2, lines 4-19), comprising: a checking step of checking whether one

or more BTSs are connected to a specific mobile station (p. 2, lines 4-19) where Applicant

discloses "when the MS is connected to a plurality of BTSs" which implies that there is a

checking step to determine if the MS is connected to a plurality of BTSs; a reference value

changing step of changing a value of a reference value Sref (p. 2, lines 4-19) where the phrases

"reference SIR is too small" and "reference SIR is set to a larger value than necessary" indicate

that the reference SIR, Sref, is changed; and a reporting step of reporting the changed reference

value Sref to all the connected BTSs (p. 2, lines 4-19) where it is implicit that Applicant reports

the reference value to all the connected BTSs since the RNC computes the reference value and

the BTSs use the value; wherein it is possible to decide the reference value Sref in response to a

variation in a selection/synthesis gain due to an increase or a decrease of the number of

connected BTSs, where the phrase "it is possible" is so broad as to render this claim limitation

meaningless.

Applicant does not admit as prior art a calculating step of, when a result of the checking

step shows that two or more BTSs are connected, making a calculation by using values of the

selected SIRs; a reference value changing step of changing a value of Sref according to a result

of the calculation; and an upper limit setting step of, when the result of the checking step shows

that only one BTS is connected, setting the reference value Sref to an upper limit. Douzono

teaches, in a system for determining a target level for power control during soft handoff, a

calculating step of, when a result of the checking step shows that two or more BTSs are

connected (col. 7, lines 65-67), making a calculation by using number of connected BTSs (col. 7,

lines 35-40) where the calculation consists of determining the reference value ("target level") for

the given number of BTSs connected to the mobile unit; a reference value changing step of

changing a value of a reference value according to the number of base stations connected to the

mobile unit (col. 7, lines 35-41); and an upper limit setting step of, when the result of the

checking step shows that only one BTS is connected, setting the reference value to an upper limit

(30dB) (col. 7, lines 35-41). Douzono does this in order to have "a mobile communication

system capable of reducing interference among mobile stations and increasing a subscriber

capacity of the system by taking full advantage of the site diversity effect in the soft handover

state" (col. 2, lines 45-50). Therefore, it would have been obvious to one of ordinary skill in the

art at the time of the invention to have a calculating step of, when a result of the checking step

shows that two or more BTSs are connected, making a calculation by using the value of the

number of connected BTSs; a reference value changing step of changing a value of Sref

according to the number of base stations connected to a mobile unit and an upper limit setting

step of, when the result of the checking step shows that only one BTS is connected, setting the

reference value Sref to an upper limit in order to have a mobile communication system capable

of reducing interference among mobile stations and increasing a subscriber capacity of the

system by taking full advantage of the site diversity effect in the soft handover state.

Applicant's admitted prior art (AAPA) in view of Douzono does not expressly disclose a

calculating step of, when a result of the checking step shows that two or more BTSs are

connected, using a predetermined selection criterion for selecting CH receive SIRs

corresponding to certain ones of the connected BTSs, and making a calculation by using values

of the selected SIRs and a reference value changing step of changing a value of Sref according to

a result of the calculation. However, AAPA in view of Douzono does disclose receiving

notification of the number of base stations connected to a single mobile unit (Douzono: col. 5, lines 65-67) and changing the reference value according to the number of connected BTSs (Douzono: col. 5, lines 65-67). But AAPA in view of Douzono does not disclose how this number is determined. Chheda teaches, in a system for power control that varies according to a number of base stations connected to a mobile unit (col. 4, lines 34-45), determining a number of base stations connected to a mobile unit through a calculating step of using a predetermined selection criterion for selecting output powers corresponding to certain ones of the connected BTSs (output power greater than the incremental difference) (col. 5, lines 20-33) and making a calculation to determine the number of connected BTSs by using values of the selected output power (col. 5, lines 20-33). Here, since Applicant did not limit the calculation to "only values of the selected SIRs," any calculation that uses the set of "selected SIRs," including a calculation that determines which SIRs out of a larger set of SIRS are the selected SIRs, reads on the claim limitation. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a calculating step of, when a result of the checking step shows that two or more BTSs are connected, using a predetermined selection criterion for selecting CH receive SIRs (using Chheda process), and making a calculation (selecting the set of CH receive SIRs of BTSs connected to a mobile unit) by using values of the selected SIRs (where the selection of this set of CH receive SIRs inherently uses the values of the selected SIRs) and a reference value changing step of changing a value of Sref according to a result of the calculation in order to determine the value Sref according to the exact number of base stations connected to a single mobile unit.

15.   Regarding claims 2, 20, and 21, incorporating the rejection of claims 1 and 11-13, AAPA

in view of Douzono in further view of Chheda discloses that the CH receive SIR is a

communication CH receive SIR for each of the connected BTSs (AAPA: p. 1, lines 14-15). In

addition, Examiner takes official notice that using a Perch CH receive SIR is well known in the

art. As such, it would have been obvious to one of ordinary skill in the art at the time of the

invention to use a Perch CH receive SIR.

16.   Regarding claim 3, incorporating the rejection of claims 1 and 11-13, AAPA in view of

Douzono in further view of Chheda discloses each limitation of claim 3, as outlined in the

rejection of claims 1 and 11-13, except that said CH receive SIR is any one of a Perch CH

receive SIR and a communication CH receive SIR for each of the connected BTSs; that said

calculation made by using the selected value in the calculating step comprises: any one of the

step of selecting the maximum value Smax and the second largest value Sscd from among the

CH receive SIRS corresponding to the connected BTSs and the step of selecting the maximum

value Smax from among the CH receive SIRS corresponding to the connected BTSs; and any

one of the step of calculating a difference (X) between the Smax and the Sscd and the step of

calculating the number (Nbts) of BTSs in which a difference between the Smax and the receive

SIR becomes a predetermined value T2 or less. However, AAPA in view of Douzono in further

view of Chheda further discloses that said CH receive SIR is any one of a Perch CH receive SIR

and a communication CH receive SIR for each of the connected BTSs (AAPA: p. 1, lines 14-15).

In addition, AAPA in view of Douzono in further view of Chheda suggests that said calculation

made by using the selected value in the calculating step comprises: the step of selecting the

maximum value Smax (BTS(x)) from among the CH receive SIRS corresponding to the

connected BTSs (Chheda: col. 5, lines 20-34). Further, AAPA in view of Douzono in further

view of Chheda suggests calculating the number (Nbts) of BTSs in which a difference between

the Smax (BTS(x)) and the receive SIR becomes a predetermined value T2 (predetermined

threshold) or less (Chheda: col. 5, lines 20-34) where since Chheda determines the number of

BTSs that have a difference greater than the threshold, Chheda also determines the number of

BTSs in the area that are less than the threshold.

17.   Regarding claim 7, incorporating the rejection of claim 3, AAPA in view of Douzono in

further view of Chheda discloses each limitation of claim 7, as outlined in the rejection of claim

3, except that the reference value changing step comprises one of changing the reference value

Sref to a value according to the difference (X) and changing the reference value Sref to a value

according to the number (Nbts). However, AAPA in view of Douzono in further view of Chheda

discloses changing the reference value Sref to a value according to the number (Nbts) (Douzono:

col. 7, lines 35-40).

18.   Regarding claim 14, AAPA in view of Douzono in further view of Chheda discloses that

calculating said selection/synthesis gain comprises calculating a difference X between a

maximum value Smax and a second largest value Sscd from among the CH receive SIRs

(Chheda: col. 5, lines 20-33) where the SIR (Chheda: "power") for each signal is subtracted from

the max SIR (BTS(x)), and said reference value Sref is calculated by: determining whether said

difference X exceeds a predetermined threshold (Douzono: col. 7, lines 35-40 and Chheda: col.

5, lines 20-33) where the number of BTSs connected to a mobile unit will be determined based

on whether the difference X exceeds a predetermined threshold and where the number of BTSs

connected to a mobile unit is used to determine the reference value.

19.   Regarding claim 17, AAPA in view of Douzono in further view of Chheda discloses that

the calculating said selection/synthesis gain comprises determining a maximum value Smax

(BTS(x)) (Chheda: col. 5, lines 20-33) and determining a number of connected BTSs (Nbts) for

which a difference between said maximum value Smax and the receive SIR becomes equal to a

predetermined threshold value or less (Douzono: col. 7, lines 35-40 and Chheda: col. 5, lines 20-

33), and said reference value Sref is calculated by: if Nbts <=1, setting Sref to an upper limit

(30db) (Douzono: col. 7, lines 35-40); and if Nbts>=2, changing Sref as a function of Nbts

(Douzono: col. 7, lines 35-40) where Douzono's Fig. 1 is a graph of how the reference value

changes with the number of BTSs.

20.   Regarding claims 18 and 19, incorporating the rejection of claim 17, AAPA in view of

Douzono in further view of Chheda discloses that the calculating said selection/synthesis gain

comprises calculating a difference X between a maximum value Smax and a second largest value

Sscd from among the CH receive SIRs (Chheda: col. 5, lines 12-33) in order to determine which

base stations are in handover with the mobile terminal, and said reference value Sref is calculated

by a function of Nbts and X (Douzono: col. 8, lines 24-30 and col. 10, lines 25-36 and Chheda:

col. 5, lines 12-33) where Nbts is used to determine how to change the reference value and X is

used to determine which base stations need to have the reference value changed.

21.   Regarding claim 23, AAPA in view of Douzono in further view of Chheda discloses that

the decision for said reference value Sref includes determining whether the selection/synthesis

gain can be obtained by checking whether a difference of said SIRs received at said BTSs is

small (Chheda: col. 5, lines 20-34).

Allowable Subject Matter

22.   Claims 4, 8, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest comparing the difference to a threshold to determine if only a small gain can be obtained by selection/synthesis, thereby setting the reference value Sref to an upper limit.

23.   Claims 5 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest that, when X is equal to a predetermined threshold value T1 or less, it is decided that a sufficient gain can be obtained by selection/synthesis, thereby setting the reference value Sref to a value according to the X, but only after comparing the difference to another threshold, T2.

24.   Claims 6 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest using the given equation to calculate the value of Sref.

25.   Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest changing Sref as a function of the difference X.

26.   Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims. The prior art does not disclose or fairly suggest that the decision for the reference value Sref includes an evaluation of a degree of contribution of each said connected BTS.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

<div style="text-align:right">

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